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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,455	04/19/2002	Tahmina Mujtaba	UT-0033	1827

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EXAMINER	
WARE, DEBORAH K	
ART UNIT	PAPER NUMBER
1651	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/009,455	MUJTABA ET AL.	
	Examiner	Art Unit	
	Deborah K. Ware	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5 and 9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 5 and 9 are pending.

Amendment of December 14, 2006

The amendments and remarks filed December 14, 2006 are acknowledged. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claim 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al (March 1998, BF citation on enclosed PTO-1449 Form) in view of Rao et al (US Pat No. 6,361,996), newly cited Kolossov et al (1998-abstract only) and newly cited Potter (US Pat No. 5,780,587), both new references cited on enclosed PTO-892 Form.

Claims 5 and 9 are drawn to a method for isolating a pure population of mouse glial-restricted precursor cells derived from mouse embryonic stem cells by incubating thos from a ES-D3 cell line under differentiation-inducing conditions and isolating the mouse glial-restricted precursor cells via immunoselecting A2B5+ immunoreactive cells from differentiated cells. Further, the stem cells are plated on poly L-lysine/laminin coated dishes.

Rao et al (1998) teach isolated glial restricted precursor cells from spinal cords of rats using procedures in vitro A2B5+ immunoreactivity. See the abstract. Also, after the abstract, at col. 1, of page 3996, lines 13-14, the best defined glial prescursor cell is the A2B5+ progenitor cells (stem cells) isolated from rat embryos. Spinal cord tissue is used which comprises the neural tube.

Further, the best defined glial precursor cell is the A2B5 progenitor cell which is initially isolated from embryonic stem cells of the rat. In addition, steps of incubating stem cells under differentiation-inducing conditions and isolating a pure population of glial-restricted precursor cells by immunoslecting A1B5-immunoreactive cells from the differentiated cells are disclosed, note page 3996, column 2, Materials and Methods and continued onto page 3997, column 1, lines 3-6. Note that greater than 98% purity is obtained using A2B5 immunoselection technique.

Rao et al (US Pat '996) teach the central nervous system (CNS) contains precursor cells with restricted differentiation potentials and the isolation, characterization and use of stem cells from the central nervous systems. Note column 1, lines 45-46. Also the steps of incubating and isolating pure population of glial-restricted cells by immunoselecting A2B5-immunoreactive cells are disclosed, see column 5, lines 1-10 and column 13, line 15. As a whole they desire to isolate populations of mammalian embryonic stem cells and lineage restricted glial precursor cells, see column 3, lines 40-44. Furthermore, they use stem cells derived from the rat but they are not limited to stem cells from the rat, and may choose to use mammalian stem cells from a variety of species, note column 6, lines 29-34. Also at column 15, lines 40-41, mouse is another rodent besides the rat from which they may isolate precursors. Note the abstract and col. 5, lines 40-45 and 63 and col. 6, lines 5-15 and col. 9, example 1. Note also col. 13, lines 55-63, col. 4, lines 40-66, and col. 5, lines 1-25. Further, see col. 9, lines 20-22.

Kolossov et al teach mouse cell line ES-D3 cell line, note the abstract, line 10.

Potter teaches at column 20, line 46, plating cells on poly L-lysine/laminin coated dishes.

The claims differ from Rao et al in that rats are used and not a mouse to obtain the cells in greater purity.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to isolate the glial restricted precursor cells as disclosed by Rao et al from a mouse because Rao et al ('996) also disclose the mouse to be a source of precursors as well and Kolossov et al teach the mouse cell line ES-D3 cell line for culturing embryonic cell line, and then carrying out the steps of incubating and plating as taught by both Rao et al and Potter on poly L-lysine/laminin coated dishes and isolating via immunoselection in a method for isolating glial restricted precursor cells.

To obtain the cells in an amount of greater purity while using the method steps of obtaining these cells as disclosed by Rao et al. would have been expected to provide successful results. Method for isolating these cells by A2B5+ immunoreactivty is disclosed by both Rao et al. references.

Therefore, to incubate and isolate them would have been expected to yield greater purity because the central nervous system of a rodent is known to have greater than 90% glial cells. It would have been obvious to one of ordinary skill in the art to increase the number of glial restricted cells obtained by the methods of Rao et al in order to enhance the purity of the population because these cells are present in the central nervous system at a level of 90%.

One of skill in the art would have expected successful results for isolating these cells at a greater purity while using the methods of obtaining these cells as disclosed by Rao et al. Using the same procedures as Rao et al and the same class source, rodent, would have been expected to provide a successful yield of pure cells.

Each of the process steps employed by Applicants' claimed methods of isolating the cells are disclosed by Rao et al. Note col. 4-5, lines 40-66 and lines 1-26. In the absence of persuasive evidence to the contrary the claims are rendered prima facie obvious over the cited prior art. The claims are rendered prima facie obvious over the newly applied art reference.

Response to Arguments

Applicant's arguments filed December 14, 2006, have been fully considered but they are not persuasive. The argument that the starting material of the claimed method from which the mouse glial restricuted precursor (GRP) cells are isolated, namely embryonic stem cells, is different, is noted. In response to applicant's argument regarding the newly amended claims new references have been applied to address these newly added claim features. However, while Rao et al (1998) does not teach any other starting material but rat, to select a mouse in place of a rat would have been an obvious modification of the cited prior art as disclosed by Kolossov et al to select ES-D3 cell line of a mouse. Further, the other Rao et al ('996) reference applied clearly teach that such methods of isolating GRP cells is not limited to the rat and even teaches other mammalian sources including the mouse.

Further, both the rat and mouse are mammalian rodents and one of skill in the art would have expected successful results with either of these mammals. To choose embryonic stem cells is taught, or at least suggested, by the cited prior art. The Potter reference clearly teaches the same plating medium as newly presented by new claim 9. To differentiate the cell line into glial –restricted precusor cells on this plating medium is clearly suggested by the cited prior art. Each and every limitation is disclosed and to combine them to provide for glial restricted precursor cells as claimed is well within the purview of an ordinary artisan.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The claim fails to be patentably distinguishable over the state of the art discussed above. Therefore, the claim is properly rejected.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah K. Ware whose telephone number is 571-272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Deborah K. Ware
March 3, 2007

DAVID M. NAFF
PRIMARY EXAMINER
ART UNIT 1651